

### **AMENDMENTS TO THE CLAIMS**

This Listing Of Claims will replace all prior versions, and listings, of the claims in the application.

#### **Listing of the Claims:**

Claim 1: (Currently Amended): A process for the preparation of polyacrylamide beads containing encapsulated cells comprising the steps of:

- (i) providing an aqueous solution of a mixture of acrylic monomers,
- (ii) providing a suspension of cells in an aqueous solution of a persulfate,
- (iii) providing an emulsion of an aqueous solution of a tertiary amine in an water-immiscible liquid, ~~which~~ said liquid optionally contains a surfactant,
- (iv) mixing the solution provided in step (i) and the suspension provided in step (ii),
- (v) adding the mixture obtained in step (iv) to the stirred emulsion provided in step (iii), and
- (vi) polymerizing the mixture of acrylic monomers and simultaneously encapsulating the cells to form polyacrylamide beads containing encapsulated cells.

Claim 2 (Original): The process of claim 1 wherein the polyacrylamide beads have a size of 0.05 to 3 mm and a mechanical strength of at least 200 mN.

Claim 3 (Original): The process of claim 2 wherein the polyacrylamide beads have a size of 0.1 to 1.5 mm and a mechanical strength of at least 300 mN.



Claim 4 (Currently Amended): The process of ~~any of claims 1 to~~ claim 3, wherein the ratio of dry cells/mixture of acrylic monomers is 0.001:1 to 1:1 (w/w).

Claim 5 (Currently Amended): The process of ~~any of claims 1 to~~ claim 4, wherein the ratio of dry cells/mixture of acrylic monomers is 0.2:1 to 0.9:1 (w/w).

Claim 6 (Currently Amended): The process of ~~any of claims 1 to~~ claim 5 wherein the cell is a bacterial cell.

Claim 7 (Original): The process of claim 6 wherein the cell is a cell of a bacterium of the group nocardioform Actinomycetes or of the family Enterobacteriaceae.

Claim 8 (Currently Amended): The process of ~~any of claims 1 to~~ claim 7 wherein the tertiary amine is *N,N,N',N'*-tetra-methylethylenediamine or 3-(dimethylamino)propionitrile.

Claim 9 (Currently Amended): The process of ~~any of claims 1 to~~ claim 8 wherein the water-immiscible liquid is a mineral oil.

Claim 10 (Currently Amended): The process of ~~any of claims 1 to~~ claim 9 wherein ~~no~~ the surfactant is used.

Claim 11 (Currently Amended): The process of ~~any of claims 1 to~~ claim 10 wherein the polyacrylamide beads formed in step (vi) are separated.

Claim 12 (Currently Amended): Polyacrylamide beads containing encapsulated cells obtainable by a the process of ~~any of claims 1 to~~ claim 11.

Claim 13 (Original): The polyacrylamide beads of claim 12 wherein the encapsulated cells are cells of a strain of the genus *Rhodococcus* containing a nitrile hydratase.



Claim 14 (Currently Amended): ~~The use of~~ A process of utilizing the polyacrylamide beads of ~~claims 12 or~~ claim 13 as a biocatalyst for the transformation of a substrate to a product.

Claim 15 (Currently Amended): The process ~~The use of~~ claim 14 wherein the substrate is a nitrile and the product is the corresponding amide.

Claim 16 (Currently Amended): The process ~~The use of~~ claim 15 wherein the nitrile is 3-cyanopyridine and the product is nicotinamide.

Claim 17 (New): The process of claim 1, wherein the ratio of dry cells/mixture of acrylic monomers is 0.001:1 to 1:1 (w/w).

Claim 18 (New): The process of claim 1; wherein the ratio of dry cells/mixture of acrylic monomers is 0.2:1 to 0.9:1 (w/w).

Claim 19 (New): The process of claim 1, wherein the cell is a bacterial cell.

Claim 20 (New): The process of claim 19 wherein the cell is a cell of a bacterium of the group nocardioform Actinomycetes or of the family Enterobacteriaceae.

Claim 21 (New): The process of claim 1, wherein the tertiary amine is *N,N,N',N'*-tetra-methylethylenediamine or 3-(dimethylamino)propionitrile.

Claim 22 (New): The process of claim 1, wherein the water-immiscible liquid is a mineral oil.

Claim 23 (New): The process of claim 1, wherein the surfactant is used.

Claim 24 (New): The process of claim 1, wherein the polyacrylamide beads formed in step (vi) are separated.



Claim 25 (New): Polyacrylamide beads containing encapsulated cells obtainable by the process of claim 1.

Claim 26 (New): The polyacrylamide beads of claim 24 wherein the encapsulated cells are cells of a strain of the genus *Rhodococcus* containing a nitrile hydratase.

Claim 27 (New): The process of utilizing the polyacrylamide beads of claim 25 as a biocatalyst for the transformation of a substrate to the product.

Claim 28 (New): The process of claim 26 wherein the substrate is a nitrile of the product is the corresponding amide.

Claim 29 (New): The process of claim 27 wherein the nitrile is 3-cyanopyridine and the product is nicotinamide.